

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Canceled)

2. (Currently Amended) A linker molecule, comprising at least one nucleic acid binding group covalently connected by a spacer group to at least one nanoparticle binding group adapted to bind a nanoparticle thereto, and a nanoparticle that is bound to said at least one nanoparticle binding group, wherein said nanoparticle comprises a metal selected from the group consisting of Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir, Pt, Ag, Au and combinations thereof ~~The linker molecule according to claim 1,~~

wherein said nucleic acid binding group is selected from the group consisting of intercalating agents, groove-binding agents, alkylating agents, and combinations thereof.

3. (Previously Presented) The linker molecule according to claim 2, wherein the intercalating agent is selected from the group consisting of acridines, anthraquinones, diazapyrenium derivatives, furanocoumarins, naphthalene diimides, naphthalene monoimides, phenanthridines, porphyrins, and metal coordination complexes containing planar, aromatic ligands.

4. (Previously Presented) The linker molecule according to claim 2, wherein the groove-binding agent is selected from the group consisting of bis-benzamidines, bis-

benzimidazoles, lexitropsins, perylene diimides, phenylbenzimidazoles, porphyrins, pyrrole oligopeptides and viologens.

5. (Previously Presented) The linker molecule according to claim 2, wherein the alkylating agent is selected from the group consisting of aziridines, alkylating agents derived from 2-chloroethane, epoxides, nitrogen mustards, sulfur mustards and metal coordination complexes comprising at least one leaving group ligand.

6. (Previously Presented) The linker molecule according to claim 5, wherein the metal coordination complexes that are alkylating agents are selected from the group of complexes consisting of Pt^{2+} , Pt^{4+} , Pd^{2+} , Ru^{2+} , Ru^{3+} , Rh^{1+} , Rh^{2+} , and Rh^{3+} comprising at least one ligand selected from the group consisting of halide, water, di(alkyl)sulfoxide, nitrate, sulfate, carboxylate, substituted carboxylate, carbonate, phosphate, nitrite, sulfite, and hydroxide.

7. (Currently Amended) A linker molecule, comprising at least one nucleic acid binding group covalently connected by a spacer group to at least one nanoparticle binding group adapted to bind a nanoparticle thereto, and a nanoparticle that is bound to said at least one nanoparticle binding group, wherein said nanoparticle comprises a metal selected from the group consisting of Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir, Pt, Ag, Au and combinations thereof ~~The linker molecule according to claim 1,~~

wherein the nanoparticle binding group forms covalent bonds with surface ligands on the nanoparticle or displaces existing surface ligands on the nanoparticle, or combinations thereof.

8. (Currently Amended) A linker molecule, comprising at least one nucleic acid binding group covalently connected by a spacer group to at least one nanoparticle binding group

adapted to bind a nanoparticle thereto, and a nanoparticle that is bound to said at least one nanoparticle binding group, wherein said nanoparticle comprises a metal selected from the group consisting of Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir, Pt, Ag, Au and combinations thereof ~~The linker molecule according to claim 1,~~

wherein the nanoparticle binding group comprises at least one covalent bond forming functional group selected from the group consisting of carboxylic acids ~~and derivatives thereof~~, sulfonic acids, amines, alcohols, thiols, aldehydes, ketones, isocyanates, isothiocyanates, ethers, and halides.

9. (Currently Amended) A linker molecule, comprising at least one nucleic acid binding group covalently connected by a spacer group to at least one nanoparticle binding group adapted to bind a nanoparticle thereto, and a nanoparticle that is bound to said at least one nanoparticle binding group, wherein said nanoparticle comprises a metal selected from the group consisting of Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir, Pt, Ag, Au and combinations thereof ~~The linker molecule according to claim 1,~~

wherein the nanoparticle binding group comprises at least one metal-binding group selected from the group consisting of amines, phosphines, thiols, disulfides, dithiocarbamates, dithiophosphates, dithiophosphonates, thioethers, thiosulfates, and thioureas.

10-30. (Cancelled).

31. (Previously Presented) The linker molecule according to claim 3, wherein said intercalating agent is a metallointercalator containing planar, aromatic ligands.

32. (Previously Presented) The linker molecule according to claim 3, wherein said intercalating agent is a psoralen.